cùm ferè in ea fuerim opinione, illam vel nunquam, ut plernmque factum fuit, vel tam citò non redituram, ad locum illum haud ſæpius oculos direxi; nec fieri id quidem poterat, cùm hac hyeme, nocturno tempore, circa & infra Horizontem Caput Cygni perpetuo hæſerit. Certus interim ſum, ad menſem Decemb. Januar. *imo* Februarii *haud conſpicuam fuiſſe. Etenim poſt* 14. Octobris, *quo videri deſiit, memini me eam ſæpius quæſiviſſe eo in loco, ſed nuſquam apparuiſſe. Idcirco, quantum colligere datur, vix ante initium* Martij, *quin, ſine dubio, adhuc tardius iterum prodiit. Pridie eam à reliquis quibuſdam* Fixis *ſum dimenſus. Diſtat à Cauda* Cygni, 20 *gr.* 55'. 20"; *ab ancone Alæ ſuperioris Cygni,* 17 *gr.* 47'. 50"; *à Capite vero* Serpentarii, 34 *gr.* 19'. 40"; *ſic ut eodem planè loco adhuc perſiſtat, ubi antea fuerat.*

De reliquo, mihi perſuadeo, cùm ſemel, & quidem intra adeò breve temporis ſpatium redierit, illam ſæpius fore inviſibilem, rurſuſq; conſpicuam, cum incremento & decremento illius, quæ in Collo Ceti *eſt, adinſtar. Proinde operæ pretium fuerit, cùm Philoſophiæ plurimum interſit ſcire, An dentur evidentes ejuſmodi alterationes in Cælo plures, ut diligentius impoſterum ad eam attendamus; poſſitne certa quædam Hypotheſis de ejus occaſu & ortu, decremento item & incremento, à nobis excogitari? Et an ſingulis annis, ut Stella in* Collo Ceti, *ſub aſpectum veniat? An certo anni & omni tempore ſub aſpectum veniat, pari ratione; an vero cum retardatione vel anticipatione aliqua certa? Et denique, an ſemper æquali magnitudine, ſimili colore & lumine prodeat, permaneatque? Ego, dante Deo, meam operam hac in parte polliceor; reliqui Uraniæ cultores quin idem facturi ſint, nullus dubito.*

Another Accompt of the ſame Subject. Engliſhed out of the French Journal des Scavans, *printed at* Paris *the* 22*th of* June 1671.

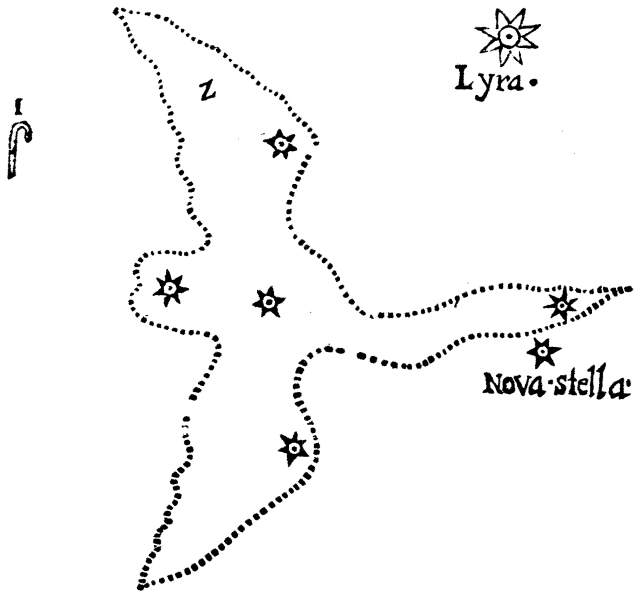
THe *New Star*, which *Don Anthelme*, a *Carthuſian* of *Dyon*, hath lately diſcover'd *, is one of the rareſt Appearances obſerved this good while. As this perſon contemplated the Heavens at night, *June* 20th of the laſt year, deſirous to diſcover that admirable Star, which hath appear'd and diſappear'd twice ſince the beginning of this Century in the Conſtellation of the

* See Numb. 65. p. 2092. *Where the time mentioned of the firſt diſcovery of this Star, differs from that of the relation of this* Journal, *and is doubtleſs hence to be corrected.*

the *Swan* *; he perceived near the ſame Conſtellation a Star of the *Third Magnitude*, which he had never yet obſerved. He preſently ſignified it to the Company which aſſembleth in the Library of the King: And divers of that Aſſembly having beheld the Heavens about the end of *June* and the beginning of *July*, took notice, that there was indeed about the *Beak* of the *Swan* a *New Star* of the *third magnitude*, not to be met with in any Catalogue of Aſtronomers, although many other neighbouring Stars, that are much ſmaller, be exactly marked by them. It was ſcituate as appears in the following figure*.

* *Which is that in* Pectore Cygni.

* *See Fig.* 2.



The Obliquity of the *Ecliptick* ſuppoſed to be 23½ degrees, the *Longitude* of this Star, according to the Obſervation of Mr. *Picard*, was——— 1°. 55'. of *Aquarius*.

The *right Aſcenſion*———293. 33.
The *Boreal Latitude*——— 47. 28.
And the *Declination*——— 26. 33.

It came to the *Meridian* after the Star *in* the Beak of the *Swan*———16'.44".
And before the *lucid* Star of the *Eagle*——— 0. 27.
It was diſtant from the great Star of the Conſtellation of *Lyra*———18°. 39. 40.
From the *Beak* of the *Swan*———3. 47. 30.
And from the *Tail* of the *Swan*———20. 54. 30.

But that which is further remarkable, is, that in the beginning of *July* * this Star was obſerved to decreaſe. In the night of *July* 3d, it appear'd yet of the *Third magnitude*, but her Light was ſenſibly fainter. In the night of the 11*th* of the ſame month, ſhe ſcarce appear'd of the *Fourth magnitude*. In the night of *Auguſt* 10*th*, ſhe was but of the *Fifth*. And ſhe hath ever ſince decreaſed ſtill, ſo that at laſt ſhe became ſo ſmall that ſhe was ſeen no more.

* *Compare* Numb. 66. p. 2028.

And ſo ſhe hath remained for ſix months without ſhewing her ſelf, and we could not diſcover her again till the night of *March* 17*th* laſt, when *Don Anthelme* ſpied her in the very ſame place, where ſhe was the year before, and found, that ſhe was of the *Fourth magnitude*.

The Aſſembly that meets in the Kings Library, having notice thereof, ſeveral of them did obſerve this Star in the night of the 2*d* of *April* laſt, finding her in the ſelf ſame place where they had ſeen her the precedent year. The 3*d* of the ſame month M. *Caſſini* found her greater than the two Stars of the *Third magnitude* that are below in the Conſtellation of *Lyra*, but a little ſmaller than that in the Beak of *Cygnus*.

The 4*th* of the ſame month, ſhe appear'd to him almoſt as great and much more radiant than that of the Beak of the *Swan*.

The 9*th* of the ſame, he found her a little diminiſh't; and almoſt equal to the greateſt of the two Stars that are below in *Lyra*.

The 12*th*, ſhe was equal to the leaſt of theſe two Stars.

The 15*th*, he perceived that ſhe encreaſed, and he found her equal, the ſecond time, to the greateſt of theſe two Stars.

From the 16*th* unto the 27*th*, ſhe appear'd of different magnitudes, being ſometimes equal to the biggeſt of theſe two Stars, ſometimes equal to the leaſt, and now and then between both.

But the 27*th* and 28*th*, ſhe was become as big as the Star in the *Swan's beak*: The 30*th*, ſhe appear'd a little clearer. And the firſt ſix days in *May*, ſhe was greater.

The 15*th* of *May* ſhe was ſeen ſmaller than the ſame Star. The 16*th*, ſhe was in bigneſs between the two Stars that are below in *Lyra*: And ever ſince ſhe hath ſtill diminiſhed.

Thus this Star hath been twice in her greateſt ſplendour, firſt on the 2*th* of *April*; and the ſecond time, in the beginning of *May*: Which we read not to have ever happen'd to any other Star.

As far as can be judged from the few Obſervations made of this Star, 'tis likely ſhe is returning about *Ten* months unto the ſame appearance; whereas that in the *Whale's Neck* maketh its revolution in *Eleven* months. As for the Star in the *Swans Breaſt*, we have as yet no certain knowledge of the period of her revolution; yet

yet one may aſſure, that ſhe taketh no leſs than *Fourteen years* to finiſh it.

The Diſcoveries, that have been made in the Heavens this laſt age, do evince, that Changes are not ſo rare there, as formerly was believed. If that was true, what *Pliny* ſaith, that *Hipparchus*, on the occaſion of a New Star he perceived, made an Enumeration of all thoſe which appear'd at that time, there would not be any one Conſtellation, in which ſome change were not found ſince that time, in regard there are few, wherein there be not found more Stars now than that Aſtronomer hath noted in them.

But as the little aſſurance we have of the exactneſs of *Hipparchus* his Catalogue giveth us cauſe to believe, that many Stars, which were not in that Catalogue, were yet in the Heavens; ſo we may well grant, that ſome of thoſe, that have been obſerved ſince, have not appear'd always. For, not to ſpeak of the Stars, that have been ſeen in the Conſtellation of *Caſſiopea*, in the Neck of the *Whale*, in the Breaſt of the *Swan*, and in *Serpentarius*; Monſieur *Caſſini* hath diſcover'd many other little ones *, which may very well be preſumed to be New. For example, he hath obſerv'd one of the *Fourth magnitude*, and two of the *Fifth* in *Caſſiopea*, where 'tis certain they were not ſeen before, many Aſtronomers having exactly reckon'd up the very ſmalleſt Stars of that Conſtellation, and yet not one of them mention'd thoſe three. He hath diſcover'd Two others, towards the Beginning of the Conſtellation of *Eridanus*, where we were ſure they were not yet about the end of the Year 1664, conſidering that this place of the Heavens, vvhere paſſed the then appearing Comet, was diligently beheld by many, who perceived divers other ſmall Stars, without obſerving thoſe two. The ſame hath alſo obſerved, towards the Arctick Pole Four of the Fifth or Sixth magnitude, which Aſtronomers, that always have their Eyes upon that place, vvould not have failed to note, if they had there appear'd before.

* *Compare thoſe, diſcover'd by M.* Hevelius, *in* Numb. 65 *p.* 2091.

Nor are we to wonder at it, that we ſee now more Stars in the Heavens than there appear'd formerly, ſeeing there appear'd thoſe formerly, vvhich are ſeen no more novv. For M. *Caſſini* hath obſerv'd, *that* the Star, vvhich *Bayerus* puts near that vvhich he marketh in the Figure of *Urſa minor*, appears no more; *that* that, which is marked A in the Figure of *Andromeda*, is alſo diſappear'd; *that* in lieu of that, vvhich is marked υ, at the knee of the ſame figure, there are two others more Nordward; and *that* that, vvhich is noted ξ, is very much diminiſht, The Star, vvhich *Tycho* placeth at the extremity of *Andromeda's Chain*, and calls it of the *Fourth magnitude*, is novv ſo ſmall that one can ſcarce ſee it: And that vvhich is in his Catalogue the 20*th* of the Conſtellation of *Piſces*, is novv no more ſeen; unleſs you will ſay, that it is gone down lower than *four*

degrees, to the place marked o in the Figure of *Bayerus* *.

But vve are not therefore preſently to ſay, that the Stars, that have been lately diſcover'd, *were* not in the Heavens before, although they vvere not ſeen there. For, as vve now knovv, that there are Stars, vvhich appear and diſappear from time to time, ſo we have cauſe to ſuſpect, that moſt of the Stars, that vvere not ſeen formerly, or that are ſeen no more novv, or are found diminiſh't, are of the ſame nature vvith the Star in the *Whal's Neck*, and do not ceaſe to be in the Heavens, though they there appear not.

It is alſo poſſible, that theſe New Stars not only vvere in the Heavens, but even appear'd there before they vvere taken notice of as Nevv ones: And it is very probable, that 'tis alſo vvith moſt Stars, as vvith that in the Neck of the Whale, vvhich vvas not obſerved at firſt, but vvhen it vvas already of the *third* magnitude; although it hath been ſince found, that it is not really ſo great vvhen it begins to appear, but that, being very ſmall in the beginning, it encreaſeth inſenſibly untill it come to that greatneſs.

However, theſe Phenomena deſerve always to be carefully obſerved by all Aſtronomers.

* We cannot omit taking notice here of what was communicated to the *R. Society*, about the ſame ſubject, in a Letter of *April* 30. 1670. by Signor *Montanari*, the Learn'd Profeſſor of the Mathematicks in *Bononia*, in theſe words: *Multa poſſem certè nova de Cælo Vobis tradere, quæ à multis annis obſervo, atque* Firmamento *meo* Inſtabili *excrenando ac propediem evulgando ſuppeditavero; ſed unum, quod cæteris admirabilius eſt, proferam. Deſunt in Cælo duæ* Stellæ Secundæ Magnitudinis *in* Puppi Navis *ejuſ que Transtri*, Bayero ß & γ, *prope* Canem majorem, *à me & aliis, occaſione præſertim Cometæ A.* 1664. *obſervatæ & recognitæ. Earum Diſparitionem cui Anno debeam, non novi; hoc indubium, quod à die* 10. April. 1668. *ne veſtigium quidem illarum adeſſe amplius obſervo; cæteris circa eas, etiam quartæ & quintæ magnitudinis, immotis. Plura de aliarum ſtellarum mutationibus, plaſquam centenis, at non tanti ponderis annotavi*, &c.

An Anſwer of Dr. *Wallis* to Mr. *Hobbes's Roſetum Geometricum* in a Letter to a friend in *London*, dated *July* 16. 1671.

Clariſſime vir,

PErlegi Hobbij *ſive* Roſetum, *ſive* Fimetum, (*nam utrumque olet*;) *in quo antiquum obtinet: Mirumque eſt, ut nec ſibi in animum inducere poſſit, nec ab amicis ſuaderi, ne ſic delirando perſiſtat ſe contemptui exponere. Notata quædam hîc tibi mitto: non quaſi metuerim, te talibus ratiociniis ſeduci poſſe, ſed ut tu, aliique, quibuſcum hæc forte communicaveris, ſine anxiâ conſideratione denuò inſtituendâ, ſtatim videatis ubi potiſſimum peccatur.*

Primæ Propoſitionis, *ſive Problematis*, *conſtructio* (*ut ut in re facili*) *falſa eſt*. Rectam extremâ & mediâ ratione ſecare; *docuerat* Euclides, *& demonſtraverat*, prop 30. El. 6. (*cui & alii hactenus conſenſerunt.*) *Secundùm quem, poſitâ rectâ ſecundâ* 1R, *erit majus ſegmentum* $\frac{\sqrt{5}-1}{2}$ R; *adeoque*

ſegmentum